

## Capsule Filling with QUANTOS For pre-clinical trials

### Application

In order to test toxicological and pharmacokinetic effects of potential new pharmaceuticals, a wide range of trials is carried out. With focus on veterinary trials, for example, a study with 30 animals might go on for one month, applying the potential API daily. The following table gives an impression of the number of dosings of the very same substance that will be required.

Study duration	28 days
Number of participants	30
Participant weights	4 to 16 kg
Sample amount	70 mg/kg
(range)	30/60/120 mg/kg
Applied samples per day	1 to 3



From these application borderlines, we can look into the dosing relevant details.

Capsules per study	1680 capsules
Used API	around 1.2 kg
Used dosing heads	7x QH250 L

Typically, size 12 & 13 capsules are used which may be filled with up to 5.2 or 3.2 g respectively of compound each; hence depending on the stage of the study and weight of the animal more than one capsule may need to be filled per application

### Challenge

The substances used are of a price of up to 2'500 €/g. Manual dosing takes about 2 to 3 minutes per dosing, overdosed samples are withdrawn. The goal is to automate a time consuming and repetitive

work, keeping or even increasing the quality standards. The adverse effects of the API's are not always known at this stage in the trial so the substances are treated as highly toxic and safety precautions required are high.

### The solution with QUANTOS

The combination of the QB1 with the auto sampler is an ideal solution for this problem:

The operator defines the required target weights (even different targets in one run can be defined) and starts the process. With no contact to the operator, the substance is filled into up to 30 capsules, reliably, independently and at a fast speed. The LabX software as well as label and protocol printer allow tracking and reporting of the dosed capsules.



## The QUANTOS solution and options

The list below shows the QUANTOS solution for the presented problem.  
The recommended parts are the essential components; however, with the optional components the customer's requirements can be fully met

### Recommended system



QUANTOS QB1 (including dosing unit, QD206DR balance, antistatic kit, Netcom kit, ethernet option, cable box and the EQ pac) with autosampler QS30



Dosing head QH250-L  
(or for small studies QH075-B)



Vial adapters to fit the used capsules

### Optional components



Label Printer CLP631



Protocol Printer RS-P25/QB1



LabX direct QUANTOS



Safety Enclosure QSE1



USB barcode / matrix scanner to track and match substances and targets

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Laboratory & Weighing Technologies  
BA Quantos Dosing Solutions  
CH-8606 Greifensee

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Printed in Switzerland  
GlobalMarCom Greifensee

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